

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
) Examiner: Not yet assigned
Madhav Datta et al.)
) Art Unit: Not yet assigned
Serial No.: Not yet assigned)
)
Filed: Herewith)
)
For: COPPER-CONTAINING C4 BALL-)
LIMITING METALLURGY STACK FOR ENHANCED)
RELIABILITY OF PACKAGED STRUCTURES)
AND METHOD OF MAKING SAME)
Which is a Divisional of Application of:)
)
Serial No: 09/961,034)
)
Filed: September 21, 2001)
Commissioner for Patents)
P.O. Box 1450)
Alexandria, Virginia 22313-1450)

INFORMATION DISCLOSURE STATEMENT

Sir:

Applicant hereby requests consideration of the enclosed Information Disclosure Statement pursuant to 37 C.F.R. §1.97(b). Attached are the PTO Forms 1449 and Forms 892 from the parent application filed on September 21, 2001 (Serial No. 09/961,034). This previous application is relied upon for an earlier filing date under 35 U.S.C. §120.

Pursuant to C.F.R. §1.98(d), copies of the references are not being provided herewith since they were previously sent to the Patent and Trademark Office. Please consider these cited documents in the currently pending §1.53(b) parent application filed on September 21, 2001 (Serial No. 09/961,034).

FIRST CLASS CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: _____

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Teresa Mattox

Name of Person Mailing Correspondence

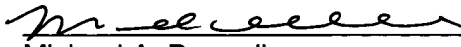
Teresa Mattox
SignatureFebruary 14, 2004
Date

Pursuant to 37 C.F.R. § 1.97, the submission of this Information Disclosure Statement is not to be construed as a representation that a search has been made and is not to be construed as an admission that the information cited in this statement is material to patentability.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 2/10, 2004


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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	09/961034
Filing Date	September 21, 2001
First Named Inventor	Datta, Madhav
Group Art Unit	2814
Examiner Name	Pham, Long

Sheet 1 of 1

Attorney Docket No: 884.522US1

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-3,663,184	05/16/1972	Wood, John R., et al.	29	195	01/23/1970
	US-4,290,079	09/15/1981	Carpenter, Charles, et al.	357	71	06/29/1979
	US-4,360,142	11/23/1982	Carpenter, Charles, et al.	228	123	05/08/1981
	US-4,505,029	03/19/1985	Owyang, King, et al.	29	589	07/08/1983
	US-5,648,686	07/15/1997	Hirano, Naohiko, et al.	257	778	07/26/1995
	US-5,736,456	04/07/1998	Akram, S.	438	614	07/17/1996
	US-5,773,359	06/30/1998	Mitchell, Douglas G., et al.	438	614	12/26/1995
	US-5,885,891	03/23/1999	Miyata, Masahiro, et al.	438	612	07/16/1997
	US-6,111,321	08/29/2000	Agarwala, Birendra N.	257	772	06/07/1995
	US-6,222,279	04/24/2001	Mis, Joseph D., et al.	257	779	04/20/1998
	US-6,224,690	05/01/2001	Andricacos, Panayotis C., et al.	148	400	03/12/1996
	US-6,232,212	05/15/2001	Degani, Yinon, et al.	438	612	02/23/1999
	US-6,348,730	02/19/2002	Yi, Sang-Don, et al.	257	737	08/03/2000
	US-6,426,282	07/30/2002	Saigal, Dinesh, et al.	438	613	05/04/2000
	US-6,489,229	12/03/2002	Sheridan, Devin R., et al.	438	614	09/07/2001

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T ²
	JP-2001189334	07/10/2001	RI, Soton, et al.	H01L	21/60	

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁴
		"Chromium Copper Step Phasing", IBM Technical Disclosure Bulletin, (08/01/1977), pgs. 1005-1006	
		TUMMALA, RAO, et al., "Microelectronics Packaging Handbook, Semiconductor Packaging", Part 2, 2nd Edition, (1997), pgs. 132-139	

EXAMINER**DATE CONSIDERED**

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional) ² Applicant is to place a check mark here if English language Translation is attached

Form 1449*	Atty. Docket No.: 884.522US1	Serial No. Unknown
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	Applicant: Madhav Datta et al.	
	Filing Date: Herewith	Group: Unknown

U.S. PATENT DOCUMENTS

**Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
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FOREIGN PATENT DOCUMENTS

**Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No

OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

**Examiner Initial	
	Annala, P., et al., "Electroplated Solder Alloys for Flip Chip Interconnections", <u>Physica Scripta</u> , T69, pp. 115-118, (1997)
	Datta, M., et al., "Electrochemical Fabrication of Mechanically Robust PbSn C4 Interconnections", <u>Journal of the Electrochemical Society</u> , 142 (11), 7 p., (Nov. 1995)
	Honma, S., et al., "Effectiveness of Thin-film Barrier Metals for Eutectic Solder Bumps", <u>Microelectronics International</u> , 14 (3), pp. 47-50, (Sept. 1997)
	Liu, C.Y., et al., "Electron microscopy study of interfacial reaction between eutectic SnPb and Cu/Ni(V)/Al thin film metallization", <u>Journal of Applied Physics</u> , 86 (11), pp. 1-5, (Dec. 1999)

Examiner	Date Considered
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*Substitute Disclosure Statement Form (PTO-1449)

**EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Notice of References Cited	Application/Control No. 09/961,034		Applicant(s)/Patent Under Reexamination DATTA ET AL.	
	Examiner Long Pham		Art Unit 2814	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,903,058 A	05-1999	Akram, Salman	257/778
	B	US-6,495,449 B1	12-2002	Nguyen, Tue	438/627
	C	US-6,130,170 A	10-2000	David et al.	438/745
	D	US-5,384,283 A	01-1995	Gegenwarth et al.	438/614
	E	US-5,492,235 A	02-1996	Crafts et al.	438/695
	F	US-6,313,651 B1	11-2001	Hembree et al.	324/755
	G	US-5,137,845 A	08-1992	Lochon et al.	438/614
	H	US-5,376,584 A	12-1994	Agarwala, Birendra N.	438/614
	I	US-6,387,793 B1	05-2002	Yap et al.	438/612
	J	US-4,880,708	11-1989	Sharma et al.	428/620
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
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	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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